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KONRAD RAYNES & VICTOR, LLP.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER	
MAI, KEVIN S	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,698	LEVY ET AL.	
	Examiner	Art Unit	
	KEVIN S. MAI	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action has been issued in response to Applicant's Amendment filed March 18, 2008.

2. Claims 1, 9, 18 and 20 have been amended. Claims 1-27 have been examined and are pending.

Response to Arguments

3. Applicant's arguments with respect to claims 1-6, 8-14, 16-24, 26 and 27 have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments with respect to claims 7, 15 and 26 have been considered but are not persuasive. Applicant argues that examiner does not teach an intermediate driver performing the actions mentioned, however the driver disclosed Latif performs all the actions required by the claims. While it is noted that Latif only discloses a singular driver performing all the functionality of the multiple drivers this is seen to be an obvious variant. As shown in US Pat. No. 7307948 to Infante et al. (hereinafter "Infante") Figures 2 and 3, one embodiment involves a single HBA driver responsible for all the adapters as well as communicating with the operating system, while the other embodiment discloses splitting apart the responsibilities with individual miniport drivers which then report to another driver. Thus it is seen it was well known in the art to use either variant.

Claim Rejections - 35 USC § 101

5. In view of the amendment to claim 20 clarifying 'computer readable storage medium', the pending claim rejections under 35 USC § 101 have been withdrawn. Subsequently the rejections to claims 21-27, which depend on claim 20, are similarly withdrawn.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 3-6, 9, 11-14, 16, 18, 20 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. No. 2005/0058063 to Masuyama et al. (hereinafter "Masuyama").

8. **As to Claim 1,** Masuyama discloses **a method, comprising:**

managing transmission of data through a plurality of adaptors connected to switches (Figure 1 of Masuyama discloses a plurality of NID's connected to switches)**;**

sending through the adaptors at least one query to the switches connected to the adaptor to determine a status of external ports in each queried switch communicating with a network (Paragraph [0017] of Masuyama discloses according to the "Hot Standby Router Protocol" (HSRP) fail-over in such an environment may be supported through the use of probe packets that are periodically transmitted to detect component failure. Thus although Masuyama's invention

does not explicitly include querying the switches it is seen that it would have been obvious since Masuyama discloses it as one of the known methods to detect component failure)**; and**

in response to determining from the at least one query that no external ports are operational in one non-operational switch, indicating not to transmit data to the adaptor connected to the non-operational switch, wherein the adaptor for which indication is made not to transmit data is functioning and capable of transmitting (Paragraph [0027] and Figure 2 of Masuyama disclose that when the switch detects link loss on the uplink (external port), the fail-over circuit automatically disrupts the communications on the downlink to trigger fail-over to another switch. Then paragraph [0026] discloses that when link loss on the downlink is discovered the system automatically fails-over from one NID to another NID. Thus it is seen that the original NID is still functioning and capable of transmitting since it is the switch that has detected link loss on the uplink)**.**

9. **As to Claim 3,** Masuyama discloses the invention as claimed as described in claim 1**,**

further comprising:

indicating to transmit data to one adaptor connected to one switch having at least one operational external port in response to determining from the at least one query that at least one external port in the switch is operational when the switch was previously indicated as non-operational (Paragraph [0037] of Masuyama discloses if the connection has been restored on the uplink (previously non-operational becoming operational) the downlink is also restored. This triggers the system to return to normal and allows the original NID to resume operation)**.**

10. **As to Claim 4,** Masuyama discloses the invention as claimed as described in claim 3, **further comprising:**

performing a failover to the switch that is operational from the switch that is non-operational in response to determining from the at least one query that one switch is non-operational (Paragraph [0027] and Figure 2 of Masuyama discloses when switch (40) detects link loss on the uplink, the fail-over automatically occurs to trigger fail-over to switch (44))**; and performing a failback to the switch that is determined to have at least one operational external port when the switch was previously indicated as non-operational** (Paragraph [0037] of Masuyama discloses that when the connection has been restored on the uplink switch (40) is returned to normal mode which similarly causes the original NID to resume operation).

11. **As to Claim 5,** Masuyama discloses the invention as claimed as described in claim 1, **wherein the adaptors are managed as a team and wherein load balancing operations are performed when transmitting data through the adaptors** (Paragraph [0023] of Masuyama discloses the NIDs can be configured into a team and may be used for purposes such as fail-over, redundancy and load balancing).

12. **As to Claim 6,** Masuyama discloses the invention as claimed as described in claim 1, **wherein each adaptor is connected to a different switch to provide redundant paths to the network** (Figure 1 of Masuyama shows two separate NIDs connected to two separate switches).

13. **As to Claim 9,** Masuyama discloses **a system in communication with at least one switch, wherein the switch communicates with a network, comprising:**

a plurality of adaptors connected to the at least one switch (Paragraph [0023] and Figure 1 of Masuyama disclose NID (30a) and NID (30b) to be connected to switch (40) and switch (44) respectively. Then it discloses the other servers may be connected to switches (40 and 44) similarly. Thus it is seen that a plurality of adaptors are connected to each switch)**;**

circuitry capable of causing operations, the operations comprising:

managing transmission of data through the adaptors (Paragraph [0023] of Masuyama discloses the servers containing multiple NIDs for things like fail-over and load balancing. Both of those actions require managing transmission of data through particular adaptors. Thus it is seen that the system manages the transmissions)**;**

sending through the adaptors at least one query to the switches connected to the adaptor to determine a status of external ports in each queried switch communicating with the network (Paragraph [0017] of Masuyama discloses according to the "Hot Standby Router Protocol" (HSRP) fail-over in such an environment may be supported through the use of probe packets that are periodically transmitted to detect component failure. Thus although Masuyuama's invention does not explicitly include querying the switches it is seen that it would have been obvious since Masuyama discloses it as one of the known methods to detect component failure)**; and**

in response to determining from the at least one query that no external ports are operational in one non-operational switch, then indicating not to transmit data to the adaptor connected to the non-operational switch, wherein the adaptor for which indication

is made not to transmit data is functioning and capable of transmitting (Paragraph [0027] and Figure 2 of Masuyama disclose that when the switch detects link loss on the uplink (external port), the fail-over circuit automatically disrupts the communications on the downlink to trigger fail-over to another switch. Then paragraph [0026] discloses that when link loss on the downlink is discovered the system automatically fails-over from one NID to another NID. Thus it is seen that the original NID is still functioning and capable of transmitting since it is the switch that has detected link loss on the uplink)**.**

14. **As to Claim 11,** Masuyama discloses the invention as claimed as described in claim 9**, wherein the operations performed by the circuitry are further capable of: indicating to transmit data to one adaptor connected to one switch having at least one operational external port in response to determining from the at least one query that at least one external port in the switch is operational when the switch was previously indicated as non-operational** (Paragraph [0037] of Masuyama discloses if the connection has been restored on the uplink (previously non-operational becoming operational) the downlink is also restored. This triggers the system to return to normal and allows the original NID to resume operation)**.**

15. **As to Claim 12,** Masuyama discloses the invention as claimed as described in claim 9**, wherein the operations performed by the circuitry are further capable of: performing a failover to the switch that is operational from the switch that is non-operational in response to determining from the at least one query that one switch is non-**

operational (Paragraph [0027] and Figure 2 of Masuyama discloses when switch (40) detects link loss on the uplink, the fail-over automatically occurs to trigger fail-over to switch (44))**; and performing a failback to the switch that is determined to have at least one operational external port when the switch was previously indicated as non-operational** (Paragraph [0037] of Masuyama discloses that when the connection has been restored on the uplink switch (40) is returned to normal mode which similarly causes the original NID to resume operation)**.**

16. **As to Claim 13,** Masuyama discloses the invention as claimed as described in claim 9**, wherein the adaptors are managed as a team and wherein load balancing operations are performed when transmitting data through the adaptors** (Paragraph [0023] of Masuyama discloses the NIDs can be configured into a team and may be used for purposes such as fail-over, redundancy and load balancing)**.**

17. **As to Claim 14,** Masuyama discloses the invention as claimed as described in claim 9**, wherein each adaptor is connected to a different switch to provide redundant paths to the network** (Figure 1 of Masuyama shows two separate NIDs connected to two separate switches)**.**

18. **As to Claim 16,** Masuyama discloses the invention as claimed as described in claim 9**, further comprising:**

a chassis, wherein the switches are implemented on printed circuit boards in the chassis (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**; and**

a printed circuit board in the chassis on which the circuitry and adaptors are implemented (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**.**

19. **As to Claim 18,** Masuyama discloses **a system in communication with a network, comprising:**

a chassis (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**;**

a plurality of switch printed circuit boards capable of being inserted in the chassis (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**;**

a server printed circuit board capable of being inserted in the chassis (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**, and including:**

a plurality of adaptors connected to the switch printed circuit boards (Paragraph [0023] and Figure 1 of Masuyama disclose NID (30a) and NID (30b) to be connected to switch (40) and switch (44) respectively. Then it discloses the other servers may be connected to switches (40 and 44) similarly. Thus it is seen that a plurality of adaptors are connected to each switch)**;**

circuitry capable of causing operations, the operations comprising:

managing transmission of data through the adaptors (Paragraph [0023] of Masuyama discloses the servers containing multiple NIDs for things like fail-over and load balancing. Both

of those actions require managing transmission of data through particular adaptors. Thus it is seen that the system manages the transmissions)**;**

sending through the adaptors at least one query to the switch printed circuit boards connected to the adaptor to determine a status of external ports in each queried switch communicating with the network (Paragraph [0017] of Masuyama discloses according to the "Hot Standby Router Protocol" (HSRP) fail-over in such an environment may be supported through the use of probe packets that are periodically transmitted to detect component failure. Thus although Masuyuama's invention does not explicitly include querying the switches it is seen that it would have been obvious since Masuyama discloses it as one of the known methods to detect component failure)**; and**

in response to determining from the at least one query that no external ports are operational in one non-operational switch printed circuit board, then indicating not to transmit data to the adaptor connected to the non-operational switch printed circuit board, wherein the adaptor for which indication is made not to transmit data is functioning and capable of transmitting (Paragraph [0027] and Figure 2 of Masuyama disclose that when the switch detects link loss on the uplink (external port), the fail-over circuit automatically disrupts the communications on the downlink to trigger fail-over to another switch. Then paragraph [0026] discloses that when link loss on the downlink is discovered the system automatically fails-over from one NID to another NID. Thus it is seen that the original NID is still functioning and capable of transmitting since it is the switch that has detected link loss on the uplink)**.**

20. **As to Claim 20,** Masuyama discloses **an article of manufacture comprising a computer readable storage medium having code executed to communicate with adaptors connected to switches, wherein the switches provide communication with a network, and wherein the code is further executed to perform operations, the operations, comprising: managing transmission of data through the adaptors connected to the switches** (Paragraph [0023] of Masuyama discloses the servers containing multiple NIDs for things like fail-over and load balancing. Both of those actions require managing transmission of data through particular adaptors. Thus it is seen that the system manages the transmissions)**;**
sending through the adaptors at least one query to the switches connected to the adaptor to determine a status of external ports in each queried switch communicating with the network (Paragraph [0017] of Masuyama discloses according to the "Hot Standby Router Protocol" (HSRP) fail-over in such an environment may be supported through the use of probe packets that are periodically transmitted to detect component failure. Thus although Masuyuama's invention does not explicitly include querying the switches it is seen that it would have been obvious since Masuyama discloses it as one of the known methods to detect component failure)**; and**
in response to determining from the at least one query that no external ports are operational in one non-operational switch, then indicating not to transmit data to the adaptor connected to the non-operational switch, <u>wherein the adaptor for which indication is made not to transmit data is functioning and capable of transmitting</u> (Paragraph [0027] and Figure 2 of Masuyama disclose that when the switch detects link loss on the uplink (external port), the fail-over circuit automatically disrupts the communications on the downlink to trigger

fail-over to another switch. Then paragraph [0026] discloses that when link loss on the downlink is discovered the system automatically fails-over from one NID to another NID. Thus it is seen that the original NID is still functioning and capable of transmitting since it is the switch that has detected link loss on the uplink).

(Applicant did not add the limitation "wherein the adaptor for which indication is made not to transmit data is functioning and capable of transmitting" to claim 20. However, in the remarks and arguments section 2, the claims 1, 9, 18 and 20 were grouped together saying they had been amended to recite that limitation. Thus in view of this examiner will treat claim 20 to have been amended similarly to claims 1, 9 and 18. If applicant actually intended for claim 20 to remain as it was, with only amendments to the article of manufacture, it is requested that applicant clarify this to be the case. The rejection above can be used for either version of the amendment)

21. **As to Claim 22,** Masuyama discloses the invention as claimed as described in claim 20, **wherein the operations further comprise:**

indicating to transmit data to one adaptor connected to one switch having at least one operational external port in response to determining from the at least one query that at least one external port in the switch is operational when the switch was previously indicated as non-operational (Paragraph [0037] of Masuyama discloses if the connection has been restored on the uplink (previously non-operational becoming operational) the downlink is also restored. This triggers the system to return to normal and allows the original NID to resume operation).

22. **As to Claim 23,** Masuyama discloses the invention as claimed as described in claim 22, **wherein the operations further comprise:**

performing a failover to the switch that is operational from the switch that is non-operational in response to determining from the at least one query that one switch is non-operational (Paragraph [0027] and Figure 2 of Masuyama discloses when switch (40) detects link loss on the uplink, the fail-over automatically occurs to trigger fail-over to switch (44))**; and performing a failback to the switch that is determined to have at least one operational external port when the switch was previously indicated as non-operational** (Paragraph [0037] of Masuyama discloses that when the connection has been restored on the uplink switch (40) is returned to normal mode which similarly causes the original NID to resume operation).

23. **As to Claim 24,** Masuyama discloses the invention as claimed as described in claim 20, **wherein the adaptors are managed as a team and wherein load balancing operations are performed when transmitting data through the adaptors** (Paragraph [0023] of Masuyama discloses the NIDs can be configured into a team and may be used for purposes such as fail-over, redundancy and load balancing).

24. **As to Claim 25,** Masuyama discloses the invention as claimed as described in claim 20, **wherein each adaptor is connected to a different switch to provide redundant paths to the network** (Figure 1 of Masuyama shows two separate NIDs connected to two separate switches).

25. Claims 2, 7, 10, 15, 19, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuyama and further in view of US Pat. No. 6393483 to Latif et al. (hereinafter "Latif").

26. **As to Claim 2,** Masuyama discloses the invention as claimed as described in claim 1**, further comprising:**

Masuyama does not explicitly disclose **maintaining a switch map including information associating the adaptors with the switch to which the adaptors connect and a status of the external ports on the switches; and**

However, Latif discloses this (Figure 7B of Latif discloses a Port Resolution Table (switch map) that contains port numbers and destination addresses (read to be the adaptors and switches) and a timer field which indicates the status of the connections)

Masuyama does not explicitly disclose **updating the status of the external ports to the status determined from the at least one query.**

However, Latif discloses this (Column 11 lines 1 – 20 of Latif disclose that after the initial scan if the timer field is set to '1' it will be changed to '0' and then later it will again scan all indices and similarly update the timer field)

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of claim 1 as disclosed by Masuyama, with having a map of the status of the connections in the network as disclosed by Latif. One of ordinary skill in the art would have been motivated to combine to provide a way to keep track of which adapters are currently in use.

Since it is known that the system will provide fail over it would have been obvious to have a table to keep track of which components are currently being covered for.

27. **As to Claim 7,** Masuyama discloses the invention as claimed as described in claim 1. Masuyama does not explicitly disclose **wherein the operations of managing the transmissions of data, sending the at least one query and indicating not to transmit data to one adaptor is performed by an intermediate device driver executing in a server in communication with adaptor device drivers**

However, Latif discloses this (Column 4 lines 65 – 67 and Column 5 lines 1 – 10 of Latif disclose that the smart NIC driver is used to manage loads over the multi port NIC. Then in column 7 lines 35 – 40 of Latif it is disclosed that the smart NIC driver is set to perform a LCT routine which is used to check inactivity. Finally in column 11 lines 5 – 20 of Latif it is disclosed that the PRT routine is also controlled by the smart NIC driver. Thus it is seen that the smart NIC driver describes is responsible for managing data transmission, querying the switches, and indicating not to transmit data. It is seen that because the smart NIC driver is also the adaptor device driver that it is in communication with itself and thus is seen to be the same as the applicant's invention. As to it being an intermediate driver, it is seen that the differences between a system with an intermediate driver connected to individual adapter drivers and a system with an encompassing driver that handles both higher level processes as well as individual adapter control are trivial as shown in the response to arguments).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of claim 1 as disclosed by Masuyama, with having drivers control

operations as disclosed by Latif. One of ordinary skill in the art would have been motivated to combine because using drivers to control processes is a well known method in the art and as such using drivers to make Masuyama's invention would have been obvious.

Masuyama discloses **wherein each switch and the server are implemented on different printed circuit boards** (Figure 1 of Masuyama discloses the server system 10 having separate servers and switches)**, and wherein the server and switch printed circuit board are in a chassis** (Paragraph [0015] of Masuyama discloses six server blades, two Ethernet modules and an embedded remote management module enclosed in a highly integrated 3U enclosure)**.**

28. **As to Claim 10,** Masuyama discloses the invention as claimed as described in claim 9**, further comprising:**

Masuyama does not explicitly disclose **a switch map including information associating the adaptors with the switch to which the adaptors connect and a status of the external ports on the switches,**

However, Latif discloses this (Figure 7B of Latif discloses a Port Resolution Table (switch map) that contains port numbers and destination addresses (read to be the adaptors and switches) and a timer field which indicates the status of the connections)

Masuyama does not explicitly disclose **wherein the operations performed by the circuitry are further capable of updating the status of the external ports to the status determined from the at least one query.**

However, Latif discloses this (Column 11 lines 1 – 20 of Latif disclose that after the initial scan if the timer field is set to '1' it will be changed to '0' and then later it will again scan all indices and similarly update the timer field)

Examiner recites the same rationale to combine used in claim 2.

29. **As to Claim 15,** Masuyama discloses the invention as claimed as described in claim 9. Masuyama does not explicitly disclose **wherein the circuitry for performing the operations of managing the transmissions of data, sending the at least one query and indicating not to transmit data to one adaptor is implemented as an intermediate device driver, further comprising:**

at least one adaptor device driver in communication with the intermediate device driver managing communications to at least one adaptor.

However, Latif discloses this (Column 4 lines 65 – 67 and Column 5 lines 1 – 10 of Latif disclose that the smart NIC driver is used to manage loads over the multi port NIC. Then in column 7 lines 35 – 40 of Latif it is disclosed that the smart NIC driver is set to perform a LCT routine which is used to check inactivity. Finally in column 11 lines 5 – 20 of Latif it is disclosed that the PRT routine is also controlled by the smart NIC driver. Thus it is seen that the smart NIC driver describes is responsible for managing data transmission, querying the switches, and indicating not to transmit data. It is seen that because the smart NIC driver is also the adaptor device driver that it is in communication with itself and thus is seen to be the same as the applicant's invention. As to it being an intermediate driver, it is seen that the differences between a system with an intermediate driver connected to individual adapter drivers and a

system with an encompassing driver that handles both higher level processes as well as individual adapter control are trivial as shown in the response to arguments)

Examiner recites the same rationale to combine used in claim 7.

30. **As to Claim 19,** Masuyama discloses the invention as claimed as described in claim 18, **wherein the server printed circuit board further includes:**

Masuyama does not explicitly disclose **a switch map including information associating the adaptors with the switch to which the adaptors connect and a status of the external ports on the switches,**

However, Latif discloses this (Figure 7B of Latif discloses a Port Resolution Table (switch map) that contains port numbers and destination addresses (read to be the adaptors and switches) and a timer field which indicates the status of the connections)

Masuyama does not explicitly disclose **wherein the operations performed by the circuitry are further capable of updating the status of the external ports to the status determined from the at least one query.**

However, Latif discloses this (Column 11 lines 1 – 20 of Latif disclose that after the initial scan if the timer field is set to '1' it will be changed to '0' and then later it will again scan all indices and similarly update the timer field)

Examiner recites the same rationale to combine used in claim 2.

31. **As to Claim 21,** Masuyama discloses the invention as claimed as described in claim 20, **wherein the operations further comprise:**

Masuyama does not explicitly disclose **maintaining a switch map including information associating the adaptors with the switch to which the adaptors connect and a status of the external ports on the switches; and**

However, Latif discloses this (Figure 7B of Latif discloses a Port Resolution Table (switch map) that contains port numbers and destination addresses (read to be the adaptors and switches) and a timer field which indicates the status of the connections)

Masuyama does not explicitly disclose **updating the status of the external ports to the status determined from the at least one query.**

However, Latif discloses this (Column 11 lines 1 – 20 of Latif disclose that after the initial scan if the timer field is set to '1' it will be changed to '0' and then later it will again scan all indices and similarly update the timer field)

Examiner recites the same rationale to combine used in claim 2.

32. **As to Claim 26,** Masuyama discloses the invention as claimed as described in claim 20, **wherein** Masuyama does not explicitly disclose **the operations are performed by an intermediate device driver in communication with adaptor device drivers.**

However, Latif discloses this (Column 4 lines 65 – 67 and Column 5 lines 1 – 10 of Latif disclose that the smart NIC driver is used to manage loads over the multi port NIC. Then in column 7 lines 35 – 40 of Latif it is disclosed that the smart NIC driver is set to perform a LCT routine which is used to check inactivity. Finally in column 11 lines 5 – 20 of Latif it is disclosed that the PRT routine is also controlled by the smart NIC driver. Thus it is seen that the smart NIC driver describes is responsible for managing data transmission, querying the switches,

and indicating not to transmit data. It is seen that because the smart NIC driver is also the adaptor device driver that it is in communication with itself and thus is seen to be the same as the applicant's invention. As to it being an intermediate driver, it is seen that the differences between a system with an intermediate driver connected to individual adapter drivers and a system with an encompassing driver that handles both higher level processes as well as individual adapter control are trivial as shown in the response to arguments)

Examiner recites the same rationale to combine used in claim 7.

33. Claims 8, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuyama and further in view of US Pub. No. 2002/0004912 A1 to Fung (hereinafter "Fung").

34. **As to Claim 8,** Masuyama discloses the invention as claimed as described in claim 1. Masuyama does not explicitly disclose **wherein the at least one query comprises an SNMP query of the external port link status.**

However, Fung discloses this (Paragraph [0141] of Fung discloses a system where SNMP message are utilized for status reporting of switches)

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of claim 1 as disclosed by Masuyama, with using SNMP messages as disclosed by Fung. One of ordinary skill in the art would have been motivated to combine because it is disclose that using SNMP for switch management is a known industry standard (paragraph [0141] of Fung).

35. **As to Claim 17,** Masuyama discloses the invention as claimed as described in claim 9. Masuyama does not explicitly disclose **wherein the at least one query comprises an SNMP query of the external port link status.**

However, Fung discloses this (Paragraph [0141] of Fung discloses a system where SNMP message are utilized for status reporting of switches)

Examiner recites the same rationale to combine used in claim 8.

36. **As to Claim 27,** Masuyama discloses the invention as claimed as described in claim 20. Masuyama does not explicitly disclose **wherein the at least one query comprises an SNMP query of the external port link status.**

However, Fung discloses this (Paragraph [0141] of Fung discloses a system where SNMP message are utilized for status reporting of switches)

Examiner recites the same rationale to combine used in claim 8.

Conclusion

37. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN S. MAI whose telephone number is (571)270-5001. The examiner can normally be reached on Monday through Friday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KSM

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2146